

PATENT ABSTRACTS OF JAPAN

(11)Publication number : 07-083871

(43)Date of publication of application : 31.03.1995

(51)Int.Cl.

G01N 27/327

(21)Application number : 05-230290

(71)Applicant : MATSUSHITA ELECTRIC IND CO LTD

(22)Date of filing : 16.09.1993

(72)Inventor : YOSHIOKA TOSHIHIKO
NANKAI SHIRO

(54) BIOSENSOR

(57)Abstract:

PURPOSE: To take a highly accurate measurement by providing a reaction layer containing enzyme for transforming an interfering substance involved in the reaction system of a measurement object to such a substance as not involved in the reaction system.

CONSTITUTION: Glucose in sample liquid is oxidized by pyranose oxidase contained in a reaction layer 9. Thus, the glucose disappears from the liquid after the dissolution of the layer 9. Sucrose in the liquid is hydrolyzed due to invertase in a reaction layer 7, and α -glucose and fructose are thereby generated. Also, isomerization from α -glucose to β -glucose is facilitated with mutalose, and β -glucose is oxidized by glucose oxidase. In this case, potassium ferricyanide coexistent in the layer 7 is reduced to generate potassium ferrocyanide. This generated amount is in proportion to a sucrose amount in the liquid. When voltage is applied across a counter electrode 5 and a working electrode 4, an oxidation current value is obtained in proportion to the generated amount of potassium ferrocyanide. The concentration of sucrose can be determined from the value.

